

Procuring Energy-Efficient Commercial Products





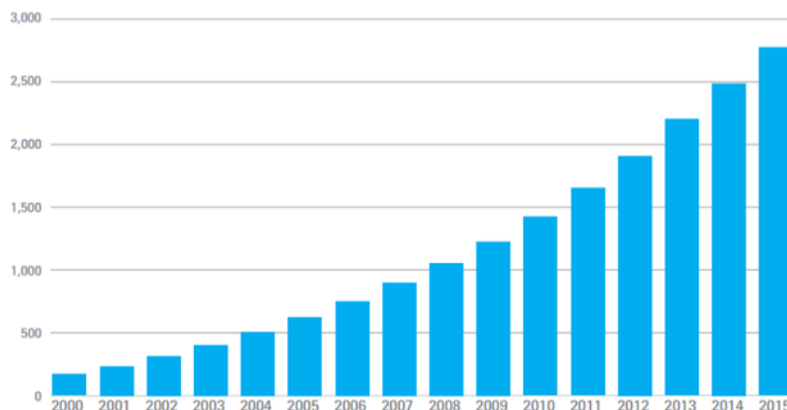
Agenda

- **ENERGY STAR Products Overview**
- ENERGY STAR Commercial Product Offerings
- Tools & Resources
 - ENERGY STAR Product Finder
 - ENERGY STAR Rebate Finder
 - ENERGY STAR Best Value Finder Tool
 - ENERGY STAR Most Efficient
 - In development: Embedded Data Centers Tools
- Procurement Guidance
 - Commercial Kitchen Design Guide
- Questions

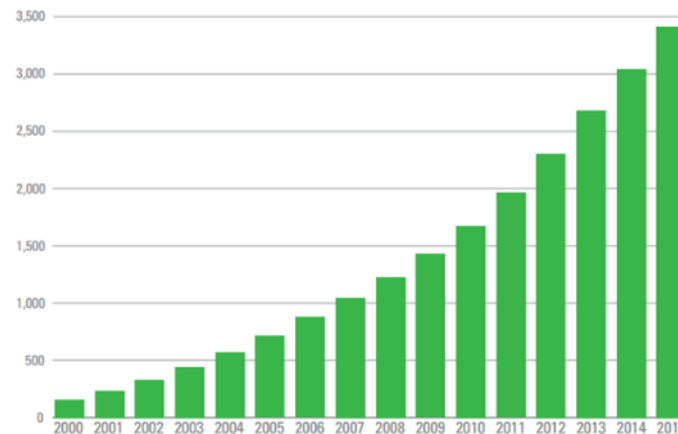
Program Impacts

- 25 years of partnerships
- Vast network of partners (nearly 20,000)
- Large savings over the last 2 decades:
 - Saved Americans \$362 billion on their utility bills
 - Avoided more than 2.5 billion metric tons of greenhouse gas emissions

GHG Emissions Savings



Energy Savings

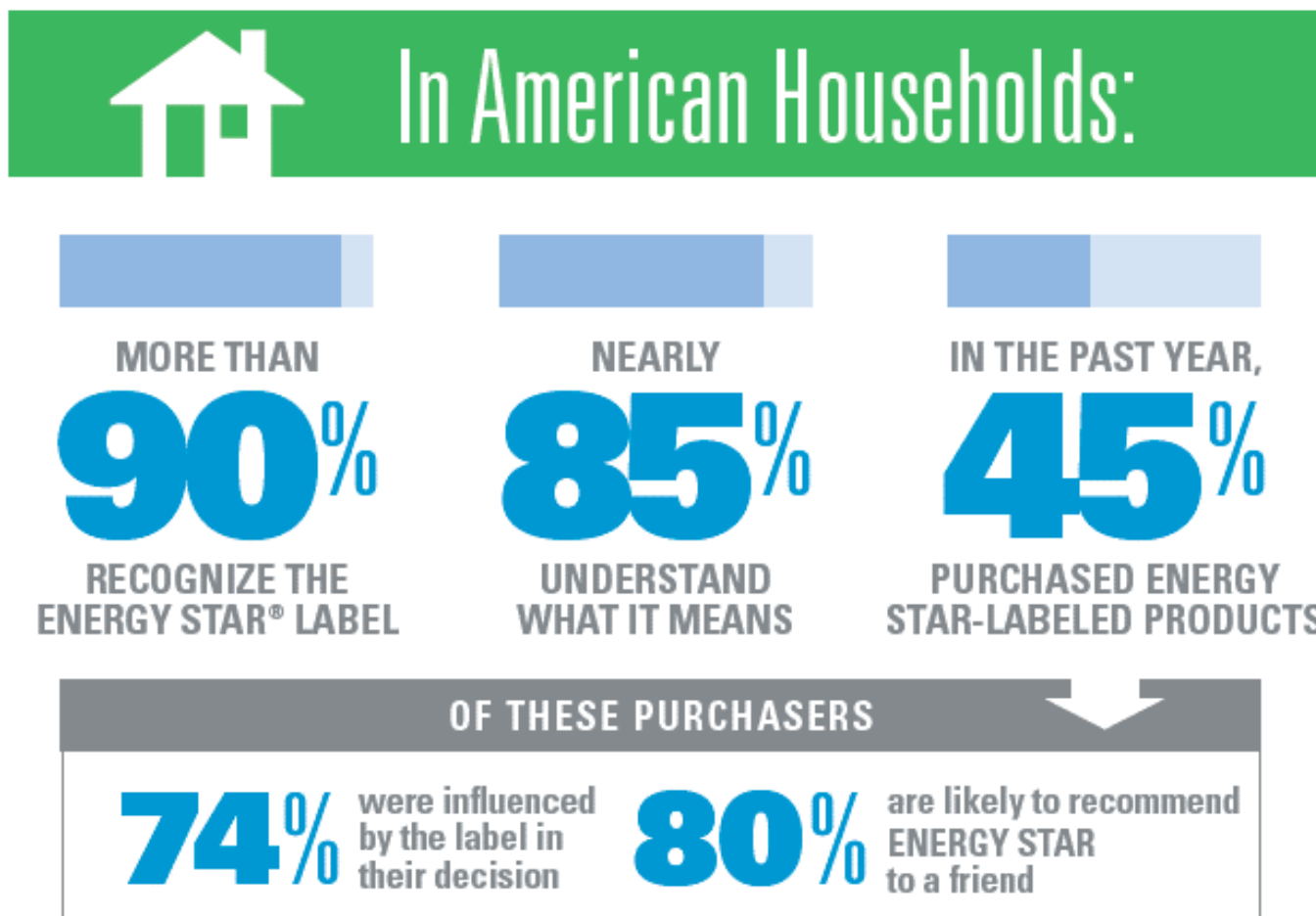


Every single day,
consumers choose
ENERGY STAR
products more than

800,000 times



Brand Preference and Loyalty



ENERGY STAR Has a Dynamic Product Portfolio

- What's new for ENERGY STAR Products:
 - Keeping Specs Current and New Energy Savers
 - Identifying the Best of the Best
 - Pulling Innovative Tech into the Market
 - Service and Savings Through Connectivity
 - Overcoming Barriers to Moving Efficient Products into the Market by highlighting different Rebate Program structures
 - Influencing Consumer Choice and Use





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ENERGY STAR Commercial Products

- **Lighting**
 - Light Bulbs (Lamps)
 - Light Fixtures (Luminaires)
- **Office Equipment**
 - Signage Displays
 - VOIP Phones
 - Computers
 - Printers, Multi-function Devices
- **Heating & Cooling, Water Heating**
 - Light Commercial HVAC
 - Commercial Boilers
 - Commercial Water Heaters
- **Other**
 - Electric Vehicle Supply Equipment
 - Lab Grade Refrigerators and Freezers



www.energystar.gov/specifications

ENERGY STAR Commercial Products

- **Commercial Appliances**

- Commercial Clothes Washers
- Vending Machines
- Water Coolers
- Commercial Ice
- Commercial Refrigeration
- Commercial Coffee
- Commercial Dishwashers
- Hot Food Holding Cabinets
- Griddles
- Fryers
- Ovens



- **Data Center Products**

- Data Center Storage
- Enterprise Servers
- Large Network Equipment
- Uninterruptible Power Supplies

- **New Products Under Development**

- Medical Imaging Equipment
- Escalators

www.energystar.gov/specifications



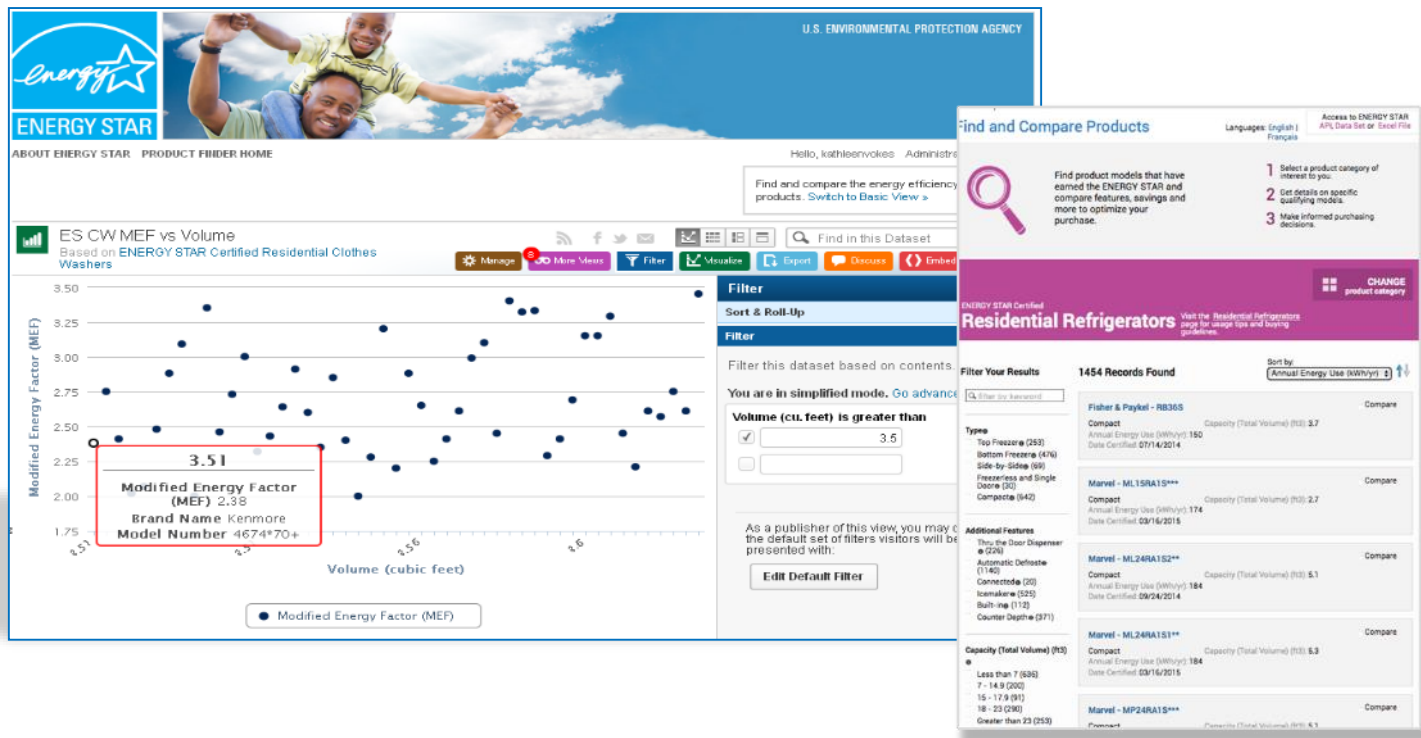


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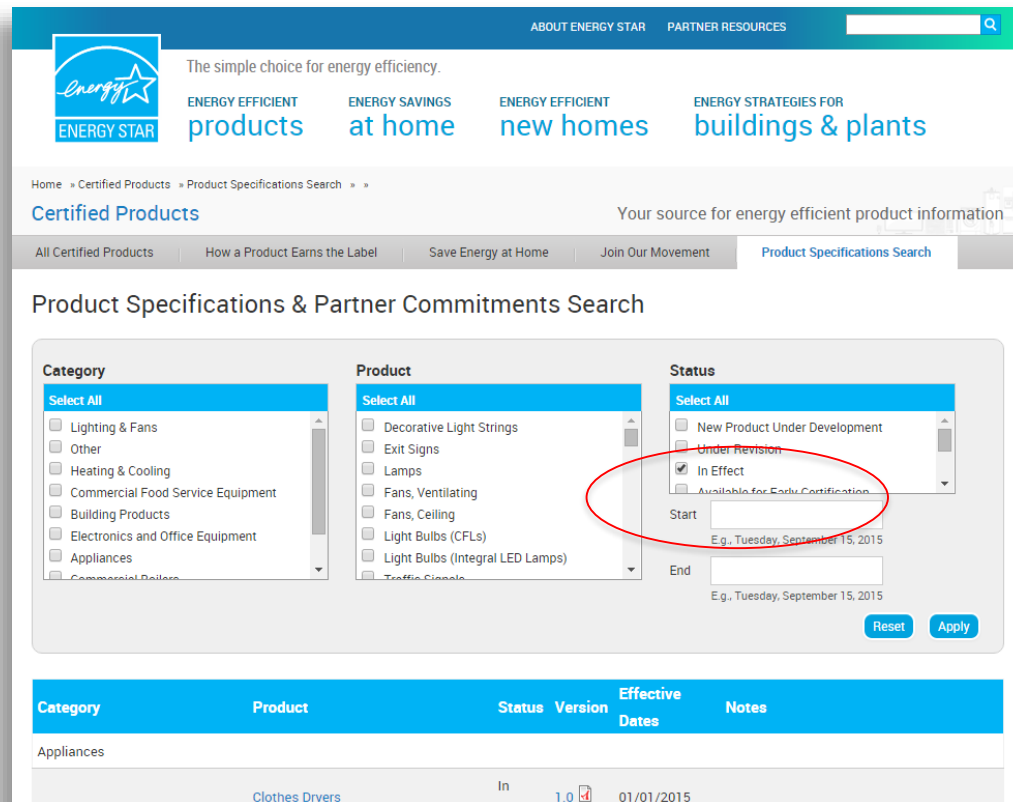
ENERGY STAR Product Finder

- Find products by filtering by product type, features, and technology
- Compare product features for up to four items
- View, filter, export and more with the advanced view



ENERGY STAR Specification Search Tool

- Search for key product performance requirements
- Find information on current specifications & effective dates
- Identify new specifications under development
- Review all ENERGY STAR specifications at: www.energystar.gov/specifications



Product Specifications & Partner Commitments Search

Category: Select All

- ☐ Lighting & Fans
- ☐ Other
- ☐ Heating & Cooling
- ☐ Commercial Food Service Equipment
- ☐ Building Products
- ☐ Electronics and Office Equipment
- ☐ Appliances
- ☐ Commercial Boilers

Product: Select All

- ☐ Decorative Light Strings
- ☐ Exit Signs
- ☐ Lamps
- ☐ Fans, Ventilating
- ☐ Fans, Ceiling
- ☐ Light Bulbs (CFLs)
- ☐ Light Bulbs (Integral LED Lamps)
- ☐ Traffic Signals

Status: Select All

- ☐ New Product Under Development
- ☐ Under Revision
- ☒ In Effect
- ☐ Available for Early Certification

Start: E.g., Tuesday, September 15, 2015

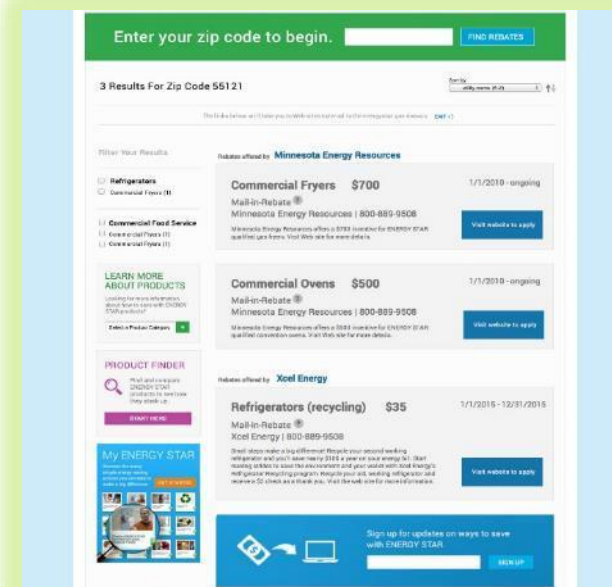
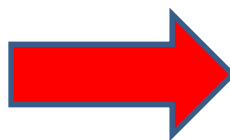
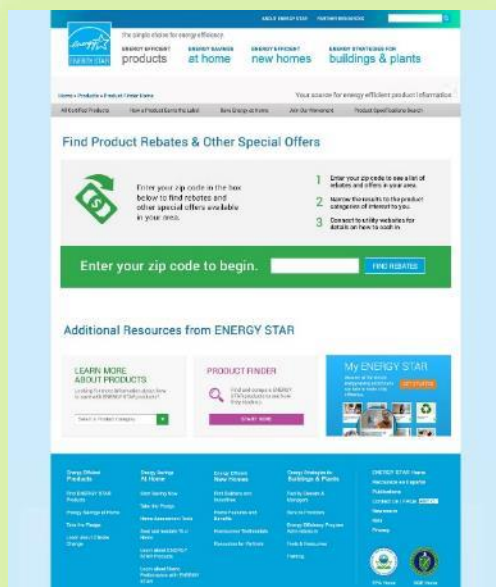
End: E.g., Tuesday, September 15, 2015

Reset Apply

Category	Product	Status	Version	Effective Dates	Notes
Appliances	Clothes Dryers	In Effect	1.0	01/01/2015	

ENERGY STAR Rebate Finder

- Easily accessible, user-friendly search tool to find ENERGY STAR rebates
- Search by entering your zip code and/or selecting the product category
- Learn more at: www.energystar.gov/rebatefinder





ENERGY STAR Best Value Finder: A New Tool Leveraging Price & Location Functionality

- Goal: Make energy saving products and tips more accessible to low income or budget-constrained consumers
 - Highlight least cost, efficient options
 - Provide online and local options for researching and purchasing products
 - Provide buying tips and information about rebates
 - Offer simple ways to reduce energy consumption and save money
- Why ENERGY STAR “Best Value” Finder?
 - Selected name based on market research
 - Enhances the ENERGY STAR brand, reflects positively on retailers and manufacturers, and should resonate with the cost-conscious consumer who is doing their research to find a smart deal.

Best Value Landing Page



ENERGY STAR Best Value Finder

The Value of ENERGY STAR at the Best Price
Welcome to the ENERGY STAR Best Value Finder. Your resource for smart savings all in one place. In addition to the energy-cost savings, we'll also show you where you can find the lowest prices on ENERGY STAR certified refrigerators, TVs, and light bulbs plus utility rebates and other special offers that are now available. So click on a product and start saving now!

Refrigerators
Is your refrigerator an energy hog? Replace your old fridge with a new model that has earned the ENERGY STAR and save \$50 a year in energy bills. ENERGY STAR Best Value Finder helps you make a smart investment.
[Best Value Results >](#)

Televisions
Shopping for a television with the latest features? You can find more than 100 ENERGY STAR televisions from 10+ brands under \$900. ENERGY STAR Best Value Finder helps you find the energy-saving electronics you want at the best prices.
[Best Value Results >](#)

Light Bulbs
How many dollars does it take to change a light bulb to ENERGY STAR? For under \$5, you can choose from 40+ ENERGY STAR LED bulbs – and they can last you up to 12 years. ENERGY STAR Best Value Finder helps you start saving today.
[Best Value Results >](#)

More Ways to Save

Consider leaving pay TV behind: stream content on a laptop or tablet
[PLAY VIDEO →](#)

- Describes what the Best Value Finder offers
- Provides compelling facts for why users should visit the product pages
- Offers more ways to save – focused on the most money for least effort
 - Switching from paid TV to streaming
 - Setting back/up your thermostat
 - Adding insulation
 - Federal tax credits for water heaters
 - Installing low-flow showerheads
 - Learning what bulb you need for your fixture

ENERGY STAR Best Value Finder – Refrigerators

ENERGY STAR Certified Refrigerators

Refrigerator models that have earned the ENERGY STAR offer value because they save you money on your energy bills. Replace your old model with an ENERGY STAR one and save as much as \$50 a year. Models with the freezer on top tend to use the least energy (versus bottom freezers or side-by-sides). Generally, the larger the refrigerator, the more energy it will use -- the most energy-efficient models are typically 15-20 cubic feet. Use the list below to find the best value in terms of purchase price.

Disclaimer

Filter Your Results

filter by keyword

Type

- ☐ Clear selections
- ☒ Top Freezer (258)
- ☒ Bottom Freezer (556)
- ☒ Side-by-Side (74)
- ☐ Freezerless and Single Door (35)
- ☐ Compact (739)

Additional Features

- ☐ Clear selections
- ☐ Thru the Door Dispenser (249)
- ☐ Automatic Defrost (1293)
- ☐ Connected (20)
- ☒ Ice Maker (609)
- ☐ Built-in (119)
- ☐ Counter Depth (402)

Capacity (Total Volume) (ft³)

- ☐ Clear selections
- ☐ Less than 7.5 (739)
- ☐ 7.5 - 12 (154)
- ☐ 12 - 15 (54)
- ☒ 15 - 18 (107)
- ☐ 18 - 21 (243)
- ☐ 21 - 24 (157)
- ☐ 24 - 27 (124)
- ☐ Greater than 27 (113)

Height (in)

- ☐ Less than 65 (882)
- ☐ 65 - 65.9 (56)
- ☐ 66 - 66.9 (51)
- ☐ 67 - 67.9 (39)
- ☐ 68 - 68.9 (69)

Pricing is from a Sample of Retail Websites

Sorted: lowest to highest price

GE - GTE16DTH****

Top Freezer | 15.6 cubic ft. | 428 (kWh/yr)
\$533.10 - \$619.00

View Product Details

GE - GPE16DTH****

Top Freezer | 15.6 cubic ft. | 428 (kWh/yr)
\$539.00 - \$649.00

View Product Details

Frigidaire - FFHT1614Q*

Top Freezer | 16.3 cubic ft. | 432 (kWh/yr)
\$551.10 - \$699.99

View Product Details

GE - GTE16GTH****

Top Freezer | 15.6 cubic ft. | 428 (kWh/yr)
\$566.00 - \$650.10

View Product Details

Rebates in your zip code: 20003

Refrigerators (purchase) \$50 - \$75

Mail-in Rebate

DC Sustainable Energy Utility | 855-MY-DCSEU

Visit website to learn more

ENERGY STAR Certified Refrigerators : GE - GTE16DTH****

Description

Type: Top Freezer
Defrost Type: Automatic
Compact: No
Built-in: No
Thru the Door Dispenser: No
Ice Maker: Yes
Counter Depth: No
Connected Functionality: No
Date Available On Market: 04/15/2014
Date Certified: 06/05/2014
Markets: United States, Canada

Energy Use

Annual Energy Use (kWh/yr): 428
US Federal Standard (kWh/yr): 468

Size

Height (in): 64.1
Width (in): 28.0
Capacity (Total Volume) (ft³): 15.6

Additional Product Information

No additional information provided

Find Online

Clicking on the "Go" link below will take you to web sites external to the energystar.gov domain. [EXIT](#)

Retailer	Model	Status	Price	Action
Airport Home Appliances & Mattress	GTE16DTHWW	Out of Stock	Unavailable	
AJ Madison	GTE16DTHWW	Online Only	\$533.10	Go
	GTE16DTHSS	Online Only	\$533.10	Go

Find Local Retail Locations for 20003

CHANGE ZIP CODE →

Best Buy 1.3 miles

The Home Depot 2.6 miles

Lowe's 3.2 miles

hbgregg 7.7 miles

In Stock at 3 stores

Best Buy Union Station - Washington D.C. - 28500
1.3 miles

Best Buy Columbia Heights - #1092



ENERGY STAR Most Efficient

- An extension of the **trusted** ENERGY STAR brand
- Recognizing the **most efficient** products among those that qualify for ENERGY STAR in a given year
- Target audience: environmentally conscious, early adopters
- Represents **the “best of the best”** in energy efficient products
- Each year, we review our criteria and raise the bar as needed to ensure Most Efficient is awarded to only the top performers



Most Efficient
2017
www.energystar.gov

ENERGY STAR Most Efficient Categories in 2018

- Residential Boilers
- Ceiling and Ventilating Fans
- Residential CAC/ASHP
- Clothes Washers
- Computer Monitors
- Dishwashers
- Dryers
- Residential Furnaces
- Residential Geothermal Heat Pumps
- Refrigerator- Freezers
- Windows



Why are Embedded Data Centers (EDCs) important?

- EDCs are everywhere
 - Most companies that run their own data centers use EDCs
 - Recent commercial building stock assessment performed by the NWPCC found 250 EDCs in 230 commercial buildings
- EDCs use a lot of energy
 - 23% of energy use of typical office building
 - 40% of energy use of new high efficiency building
- EDCs are not as efficient as large data centers: operators focused on uptime and performance, view “unnecessary” equipment changes as risks



EPA's Goals

Empower the influencers to understand, assess, and implement efficiency measures in embedded data centers.

- **Facilities, energy, purchasing and sustainability managers** can drive energy efficiency in their EDCs from within the organization
- **IT vendors** can recommend and install energy efficient solutions
- **EEPS** tend to focus on large data centers, but there are potential opportunities for savings through education incentive programs.



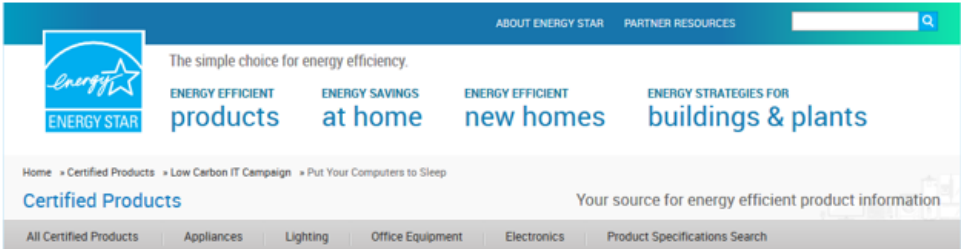


Checklist of 5 Simple Steps, 18 more in-depth Ways to Save

5 Simple Ways to Cut Energy Waste Checklist		
✓	Identify and Remove Unused Servers	Remove servers not doing anything, estimated at 8 to 10% of servers
✓	Institute an ENERGY STAR Purchasing Policy	Require purchase of ENERGY STAR certified servers, data storage, networking, and UPS
✓	Raise the Temperature	Abide by ASHRAE recommended server inlet temperatures of 65 to 81 degrees F
✓	Replace Standard Fans with Variable Speed Fans	Reduce fan speed and optimize cooling -- reducing fan speed by 1/2 reduces power by 1/8
✓	Virtualize Servers	Replace multiple physical servers with multiple "virtual" servers housed in one physical server

Web resources for each measure include non-tech description

- Non-technical descriptions that allow laymen to understand the measure
- Impartial information about
 - Costs
 - Savings
 - Implementation considerations



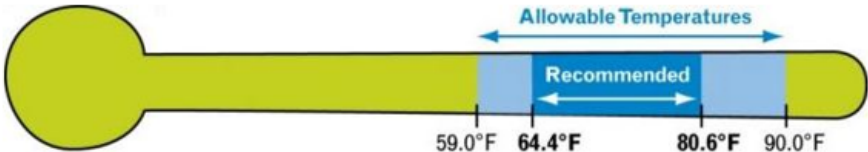
Raise the Temperature

Description

You Should Not Feel Cold in Your Data Center

Fifteen to twenty years ago it wasn't unusual to put on a jacket or sweater upon entering a data center. In fact, some data center operators installed coat hangers and kept spare jackets by the entrance for exactly that purpose. At the time, data centers set thermostats as low as 55 degrees F. Today, if you walk into your data center and find it noticeably colder than the rest of the building, chances are good that you can save energy by raising the temperature.

At what temperature should a data center be operated? In 2008, the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) expanded the recommended temperature range from 68°F to 77°F (the 2004 level) to 64.4°F to 80.6°F – as measured at the inlet (or front) of the server. Some data centers can be run at higher temperatures.

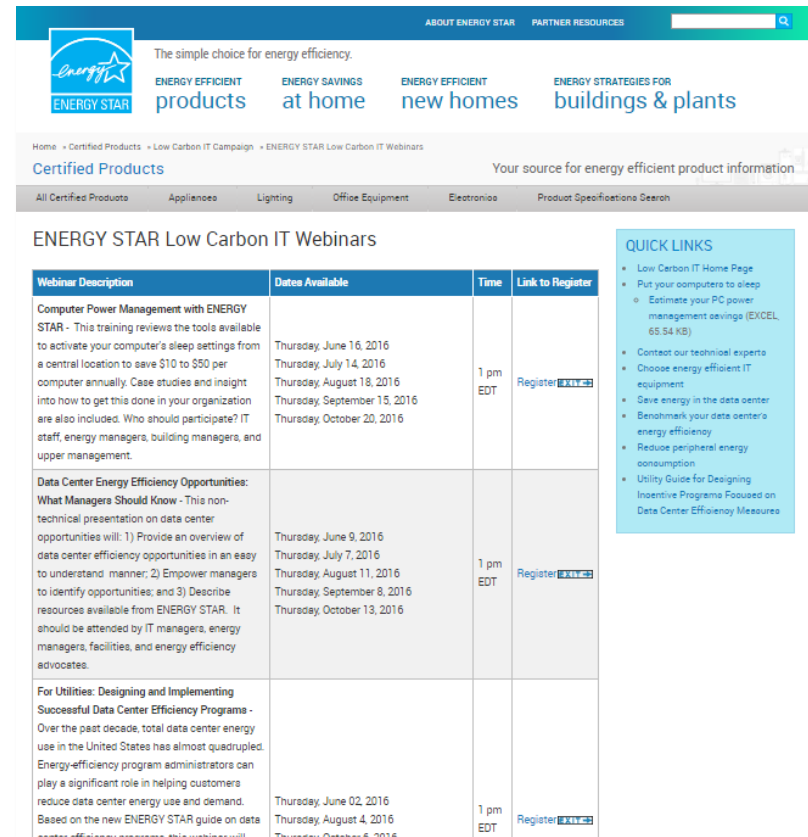


Temperature (°F)	Category
59.0	Lower Allowable
64.4	Lower Recommended
80.6	Upper Recommended
90.0	Upper Allowable

Figure 1: Recommended server inlet temperatures

Deliver educational webinars & conference presentations

- Target content to *non-technical audiences*, with a focus on the *Top 5 Simple Measures*
- In the past, our suite of webinars have been requested by numerous utilities and trade groups



The screenshot shows the ENERGY STAR website with a navigation bar and a section for "ENERGY STAR Low Carbon IT Webinars". The page lists three webinars with their descriptions, dates, times, and registration links.

Webinar Description	Dates Available	Time	Link to Register
Computer Power Management with ENERGY STAR - This training reviews the tools available to activate your computer's sleep settings from a central location to save \$10 to \$50 per computer annually. Case studies and insight into how to get this done in your organization are also included. Who should participate? IT staff, energy managers, building managers, and upper management.	Thursday, June 16, 2016 Thursday, July 14, 2016 Thursday, August 18, 2016 Thursday, September 15, 2016 Thursday, October 20, 2016	1 pm EDT	Register
Data Center Energy Efficiency Opportunities: What Managers Should Know - This non-technical presentation on data center opportunities will: 1) Provide an overview of data center efficiency opportunities in an easy to understand manner; 2) Empower managers to identify opportunities; and 3) Describe resources available from ENERGY STAR. It should be attended by IT managers, energy managers, facilities, and energy efficiency advocates.	Thursday, June 9, 2016 Thursday, July 7, 2016 Thursday, August 11, 2016 Thursday, September 8, 2016 Thursday, October 13, 2016	1 pm EDT	Register
For Utilities: Designing and Implementing Successful Data Center Efficiency Programs - Over the past decade, total data center energy use in the United States has almost quadrupled. Energy-efficiency program administrators can play a significant role in helping customers reduce data center energy use and demand. Based on the new ENERGY STAR guide on data center efficiency programs, this webinar will...	Thursday, June 02, 2016 Thursday, August 4, 2016 Thursday, October 6, 2016	1 pm EDT	Register

QUICK LINKS

- Low Carbon IT Home Page
- Put your computers to sleep
 - Estimate your PC power management savings (EXCEL, 65.54 KB)
- Contact our technical experts
- Choose energy efficient IT equipment
- Save energy in the data center
- Benchmark your data center's energy efficiency
- Reduce peripheral energy consumption
- Utility Guide for Designing Incentive Programs Focused on Data Center Efficiency Measures



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Examples of Procurement Guidance

- Primarily, “buy ENERGY STAR”
- Examples of additional resources
 - In development: Commercial Boilers System Design Guide, aimed at owners/operators of small buildings with boilers
 - In development: Distribution Transformers Buying Guidance
 - ENERGY STAR Restaurant Guide

Distribution transformer buying guidance



- *Audience:* primarily utility purchasers; also military bases, corporate and college campuses, and solar and wind developers
- *Content:* recommended EE criteria by load factor, cost effectiveness, regulatory and purchasing considerations, procurement planning
- *Applicability:* Medium-voltage liquid immersed, specifically

Type	Liquid-Immersed, Excluding vault-type
Capacity	10 kVA – 500 kVA single-phase; 2500 kVA three-phase
Voltage	Input: 34.5 kV or less; Output: 600 V or less
BIL	≤ 150 kV

¹¹ Basic Impulse Insulation Level (BIL) is the measure of resistance to very large changes in voltage, like those from a lightning strike.

Commercial Kitchen Tools & Resources

- **Why ENERGY STAR is Valuable**
 - Energy efficiency is becoming extremely important to foodservice establishments:
 - Boosts long-term bottom line
 - Demonstrates commitment to sustainability
 - Guards against rising energy rates
- **Lower total cost of ownership over time**
- **Tools & Resources**
 - ENERGY STAR Restaurant Guide
 - Eight product sell sheets
 - Equipment Overview one-pager



LEARN MORE AT
energystar.gov

ENERGY STAR, a U.S. Environmental Protection Agency program, helps all consumers and select commercial Energy Star-certified products and practices. For more information, visit energystar.gov.

BENEFITS OF ENERGY STAR® CERTIFIED COMMERCIAL FOOD SERVICE (CFS) EQUIPMENT

Commercial Fryers

Commercial fryers that have earned the ENERGY STAR are approximately 38 percent more energy efficient than standard models. Large fryers that have earned the ENERGY STAR use up to 35 percent more energy efficient than standard models. To meet the strict efficiency requirements developed by the U.S. Environmental Protection Agency's ENERGY STAR program, manufacturers use high quality components and employ innovative designs.

Eligible Products: Gas and electric open deep-fat fryers, including standard fryer stoves (≥ 12 inches and < 18 inches wide) and large vat fryers (18 to 24 inches wide). Countertop and floor type models are eligible for the ENERGY STAR.

Eligible Products: Closed vat fryers and fryers with water measuring (≥ 12 inches wide or > 24 inches wide).

EXAMPLES OF TECHNICAL APPROACHES TO REDUCE ENERGY CONSUMPTION

- Advanced gas heat exchanger design
- Advances of electrical heat transfer technologies
- Thermostats with improved accuracy
- Frypot insulation (electric only)

EXAMPLES OF ADDITIONAL BENEFITS

- Consistent production capacity & higher good-per-hour production rates
- Quicker recovery, allowing for continuous production
- Improved oil conservation and management, improved ease of cleaning
- Extended product lifetime

ESTIMATED ENERGY AND

Gas Models

\$140,000
Standard Large Vat Annual Savings
Save 58%
Standard Large Vat Monthly use
\$4,000/5,000
Standard Large Vat Lifetime Savings*

* Based on 12 years

Incentives available

ENERGY STAR® Guide for Cafés, Restaurants, and Institutional Kitchens

EPA
United States Environmental Protection Agency

ENERGY STAR

Opportunities to Promote Your Achievements with ENERGY STAR

- **Success Stories:**
 - ENERGY STAR has developed and promoted case studies on organizations who installed commercial kitchen equipment & data centers
 - Your organization or building featured in ENERGY STAR newsletter
 - Publicity through program-wide communications (social media, website, trade publications)



Why Efficiency Matters:
The Story of Arby's and ENERGY STAR®

The simple choice for energy efficiency.

The Commitment to Energy Savings

Arby's Restaurant Group, Inc., is one of the largest and most recognized quick-service restaurants in the nation. It serves more than 400 million guests per year across nearly 3,300 individual locations. As a growing percentage of consumers show interest in businesses committed to sustainable practices, the Atlanta-based company is seizing opportunities to save money and energy, while striving to ensure guests understand its commitment to environmental stewardship. There are many...

“We're really 3,300 neighborhood businesses determined to make a difference in the”



Questions?

- Resources
 - **ENERGY STAR Rebate Finder:**
www.energystar.gov/rebatefinder
 - **ENERGY STAR Product Finder:**
www.energystar.gov/productfinder
 - **CFS website:**
www.energystar.gov/CFS



THANK YOU

